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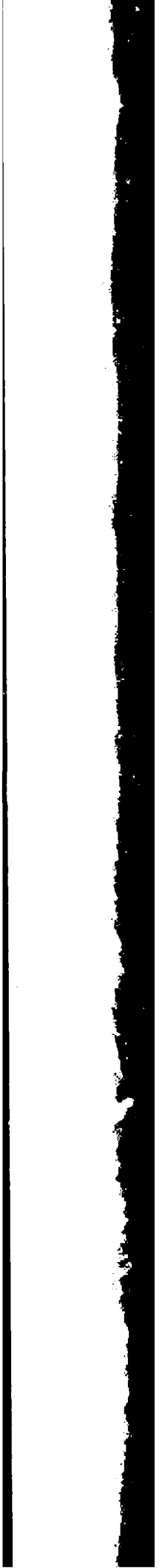
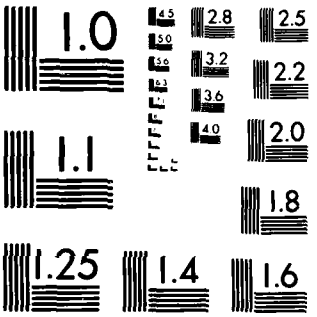
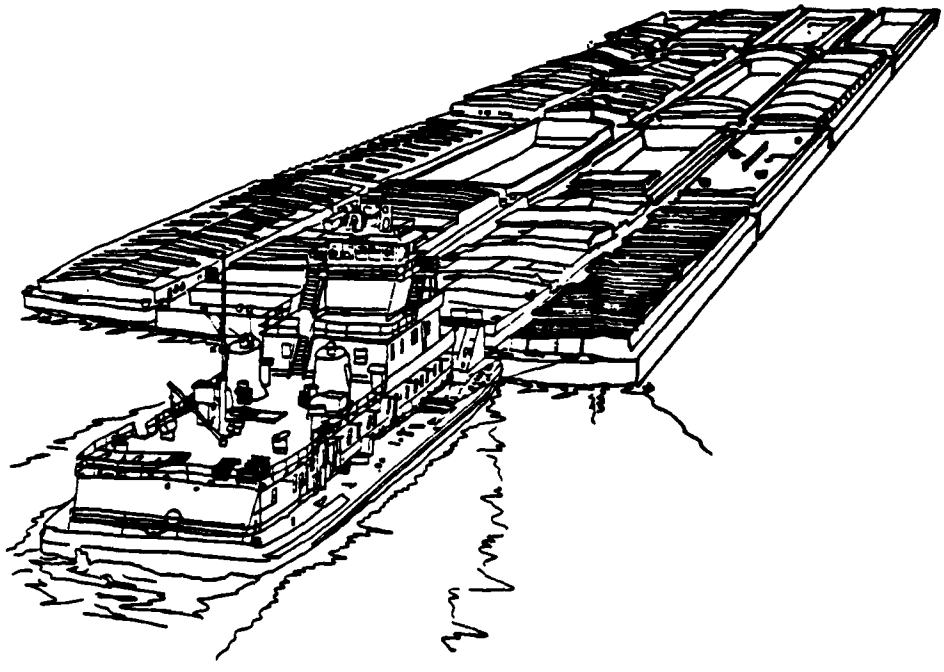




Executive Summary

A Guide to Strategic Planning for the Inland Barge and Towing Industry



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7. Author(s)

B. Dibner, I.B. Jacobson, J. Kryschtal, L.E. Sutton

8. Performing Organization Rept. No. 3861-4-00

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Dravo Mechling Corporation
400 Poydras Street
New Orleans, LA 70130

Temple, Barker & Sloane, Inc.
33 Hayden Avenue
Lexington, MA 02173

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This Executive Summary describes the strategic planning methodology that was designed and applied by an inland barge and towing company. It describes the reports and gives the results of the application of the methodology including a forecast of fleet utilization and transportation demand.

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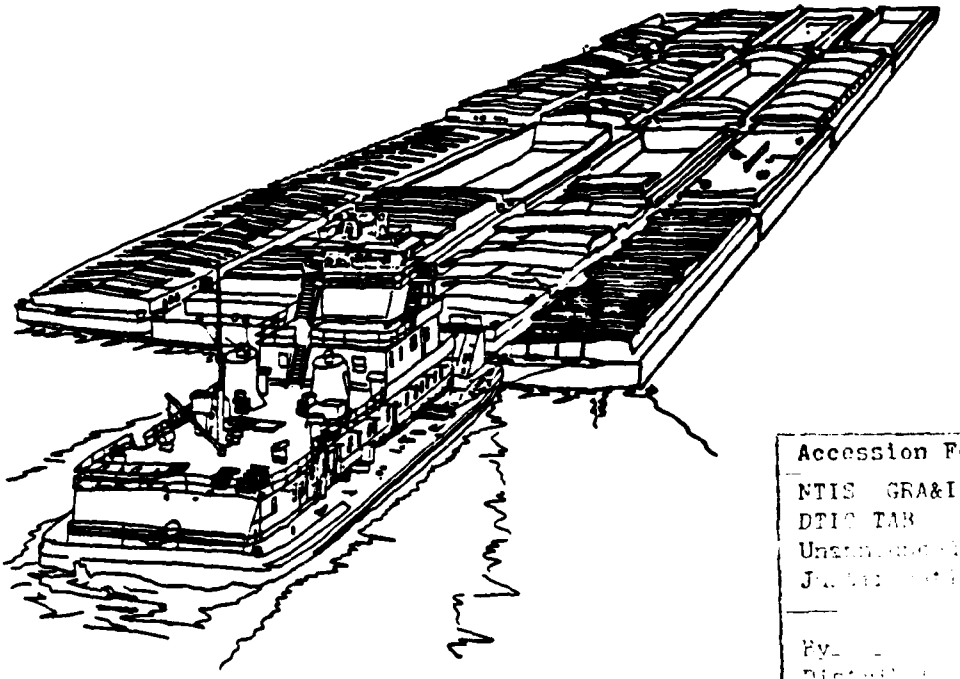

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EXECUTIVE SUMMARY

BACKGROUND

A guide to strategic planning for the inland barge and towing industry has been prepared by Dravo Mechling Corporation and Temple, Barker & Sloane, with financial support from the Maritime Administration. This project was designed to assist inland carriers to better manage their strategic planning processes to lead to better corporate financial performance. The urgency of this challenge to carriers is underscored by the continuation of low freight rates and low profit margins after more than two decades of industry growth and profitability.

The report presents the planning methodology that was developed and used by Dravo Mechling and TBS, as well as the principal general results of that analysis including a traffic forecast. The report of the strategic planning process is presented in the following framework:

- Need for Strategic Planning
- Structure for Strategic Planning

  --Analysis of Environments

  --Strategy Development

  --Plan Development
- Information Requirements
- Industry and Competitor Analysis
- Market Analysis
- Other Environmental Factors
- Development and Implementation of the Strategy

REPORTS

The project is presented to the barge and towing industry in three documents:

- Executive Summary. This report provides a brief overview of the project, its principal conclusions, and an outlook for the future of the industry.

- Guide to Strategic Planning. The final report provides industry managers with detailed descriptions and examples of the planning process as well as eight appendices that provide supporting data and information including a bibliography, commodity classifications, historical commodity flows, barge line capabilities, a sample market survey, forecasting methodology, traffic forecasts, and a financial forecasting model.

- Appendix I--Final Presentations. Overhead slides and commentary that were presented to inland marine transportation managers are provided to describe the strategic planning process and the current outlook for the inland barge industry.

These documents convey the breadth and depth of analysis that is necessary to develop and implement a successful strategic plan and provide users with an initial framework and forecast for review and further development.

RESULTS

The major findings of the strategic planning process point to unprecedented challenges ahead for existing inland carriers and their managers. Fleet capacity has increased at a rate and to a level that has outpaced traffic demand. Large numbers of new efficient barges and towboats have been added to the fleet and have reduced equipment utilization levels, freight rates, and revenues. While this process cannot be reversed, appropriate management of fleet supply in the future can accelerate recovery of utilization, rates, and revenues. Financial recovery of the inland barge industry is more likely to be based on fleet supply reductions than traffic increases. As a result, recovery of utilization levels and freight rates is years away and can only be accelerated by increased scrapping of surplus equipment.

Fleet Supply

Unless and until this fleet reduction process is voluntarily accelerated, carriers can expect freight rates to remain close to variable costs. The structural realignment of the industry will continue due to bankruptcies, sales, and mergers. Cash will be spent by larger organizations to maintain their fleets while other costly equipment will be revalued downward through financial defaults and bankruptcies and then placed in the hands of other operators with lower cost structures than many of the larger established carriers. Because equipment cannot be sold out of the inland market, bankruptcy and default will only temporarily remove excess fleet capacity from the industry.

The Effects of Inflation and Demurrage

During the 1970s, the inland barge industry benefitted from the economy's general inflation and the escalation of basic commodity prices for petroleum, chemicals, coal, and grains. High rates of inflation were incentives for shippers to own barges and, more importantly for bargelines, to hold bargeloads of cargo as inventory. As a result, barges were profitably employed by providing services for both transportation and for a significant amount of storage. While the productivity of the barge fleet declined on a ton-miles per tonnage capacity basis, the profitability remained high.

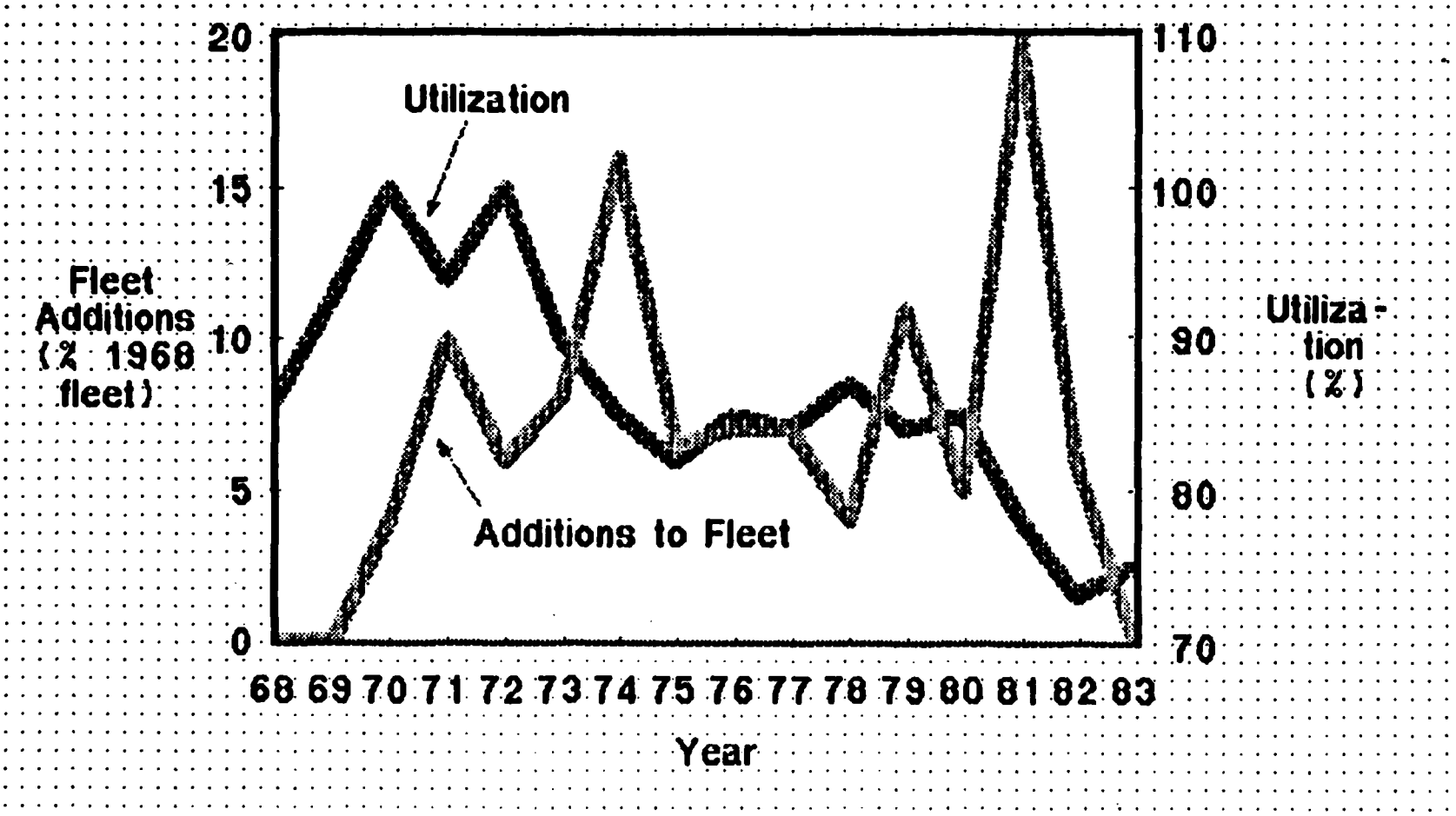
During the late 1970s and early 1980s, this phenomenon changed. Recession, driven in part by rising commodity prices and interest rates, made cargo speculation far less necessary or attractive as shortages gave way to surpluses of both manufactured and raw materials. Past demand for barge-miles and barge-days evolved into demand for barge-miles only.

Unfortunately during this period, new investor-owned equipment began to enter the market with owners' expectations to participate in the high barge freight and demurrage rates and the widely predicted grain and coal export booms. As this capacity entered the market it further aggravated the supply side of the market equation. The resulting utilization levels of barges, which had been 100 percent in the early 1970s and about 85 percent in the late (and profitable) 1970s, declined to levels of 73 percent in 1982 and 75 percent in 1983. Exhibit 1 summarizes these historical utilization levels and additions to the barge fleet.

Profitability for the industry will likely begin to occur when utilization levels are once again in the 85 to 90 percent

Exhibit 1

UTILIZATION AND BARGE FLEET ADDITIONS 1968-1983



range. This will happen as the existing fleet shrinks in number through scrapping and as traffic levels increase.

Traffic Outlook

Traffic demand on the Mississippi River System and the Gulf Intracoastal Waterway increased from 139 billion ton-miles in 1970 to 220 billion ton-miles in 1981 as shown in Table 1. Since then, traffic has declined to a low of 205 billion ton-miles in 1984. The outlook through 1990 is for modest growth. In 1990, transportation demand should be about 239 billion ton-miles, an increase of 11 percent during the intervening six years. Of this 24 billion ton-mile increase, 14 billion ton-miles are expected to be for grain movements, 5 billion in chemical traffic, and 5 billion for transportation of other commodities.

Table 1

TRAFFIC AND FORECAST
MISSISSIPPI RIVER SYSTEM AND GULF INTRACOASTAL WATERWAY

(billions of ton-miles)

Year	Total Mississippi River System and GIWW	Major Agriculture Products	Coal and Coke	Crude Oil and Petroleum Products	Construction and Waterway Improvement Materials	Chemicals and Fertilizers	All Other Commodities
1970	138.6	26.1	26.5	35.8	4.5	19.8	25.9
1971	146.7	25.6	26.4	40.4	4.9	20.8	28.6
1972	161.6	34.6	32.1	39.3	4.7	22.4	28.5
1973	153.0	38.6	29.3	35.4	4.8	20.3	24.6
1974	167.8	42.0	31.4	36.0	5.2	20.0	33.2
1975	166.6	44.5	34.7	34.8	4.2	22.1	26.3
1976	177.7	49.9	33.6	36.7	4.6	23.0	29.9
1977	188.8	52.4	36.3	39.4	5.3	25.4	30.0
1978	195.2	57.3	33.3	38.5	6.9	27.0	32.2
1979	206.1	61.8	42.1	36.6	7.5	28.9	29.2
1980	217.6	72.0	45.6	32.8	6.4	28.2	32.6
1981	219.5	71.6	56.4	29.5	4.9	26.6	30.5
1982	204.6	78.1	47.2	27.6	4.6	22.6	24.5
1983F	211.6	80.4	43.8	27.0	5.4	25.0	30.0
1984F	215.4	77.2	44.9	26.7	5.9	27.3	33.4
1985F	219.0	78.8	44.8	26.3	6.0	28.6	34.5
1986F	222.2	79.8	45.3	25.9	6.2	29.6	35.4
1987F	229.7	83.3	45.6	25.6	6.6	31.6	37.0
1988F	238.2	87.2	46.0	25.3	6.7	34.1	38.9
1989F	237.1	88.9	46.4	25.0	6.2	32.5	38.1
1990F	238.9	91.2	46.8	24.7	6.3	31.8	38.1

Source: A Guide to Strategic Planning for the Inland Barge and Towing Industry, Figures IV-3 and IV-4.

This slow growth prospect assumes that coal will increase by only 4 percent during this period and that petroleum will experience a slight decline.

While this forecast is indicative of the future, readers should review its basis and implications. It suggests that significant recovery, if based only on traffic increases and not on accelerated fleet reductions, cannot occur during the mid- or late 1980s because traffic growth alone cannot bring the industry to utilization levels that are likely to return the industry to widespread profitability.

Timing of Recovery

The recovery of utilization can be accelerated if fleet capacity decreases at a 2 percent rate and traffic increases in accordance with the forecast shown in Table 1. As Table 2 shows, freight rates can approach full cost by 1987 and, assuming no inflation or inventory use of barges, fully compensatory rates can lead to financial recovery by 1989.

Table 2

FORECAST OF FLEET UTILIZATION WITH
2 PERCENT ANNUAL SCRAPPING RATE

	Utilization Percent Based on Traffic Growth with Fleet Size at 1984 Level[1]	Adjustment Factor for Annual Fleet Size Reduction of 2 Percent[2]	Net Fleet Utilization Percent	Market Condition
1984	75.0%	100.0%	75.0%	Spot rates at variable cost
1985	76.3	98.0	77.9	Spot rates improving
1986	77.4	96.0	80.6	Spot rates improving
1987	80.0	94.1	85.0	Spot rates firm toward full cost
1988	82.9	92.2	89.9	Spot rates improving
1989	82.6	90.4	91.4	Recovery--industry profitable
1990	83.1	88.6	93.8	Recovery--industry profitable

[1]Forecast is indexed to Table 1 (Total Mississippi River System and Gulf Intracoastal Traffic expressed in ton-miles).
[2]Assumes a 2 percent net decrease in fleet capacity each year. Reduction is net of new construction.

Net fleet contraction is inclusive of any new construction. In 1984, this means that some 350 open or covered barges must go out of service permanently. Because some 100 barges were built

during the year, about 450 barges need to be scrapped or sunk or permanently re-deployed as spar barges, flats, or workshops. This rate is close to the current actual pace of deletions from the active fleet inventory and therefore the prospects for recovery may be close to the scenario depicted in Table 2. Any barge construction programs during this period of demand recovery without offsetting deletions will delay financial recovery of the entire industry.

The Changing Environment

The barge industry will operate in a radically different environment during the mid- and late-1980s than it did in the 1970s. Deregulation of railroads and motor carriers has increased the flexibility of these modes to aggressively and effectively price and provide transport services to maximize their equipment utilization.

Mergers between barge lines will further concentrate capacity and financial resources. Economies of scale will remain critical in the prevailing market and at the same time, the depth of management must be sufficient to identify and execute all aspects of marketing, sales, and operating programs.

In general, carriers will face a far more sophisticated environment in which more formal planning and implementation will be necessary to survive and achieve recovery in a competitive marketplace.

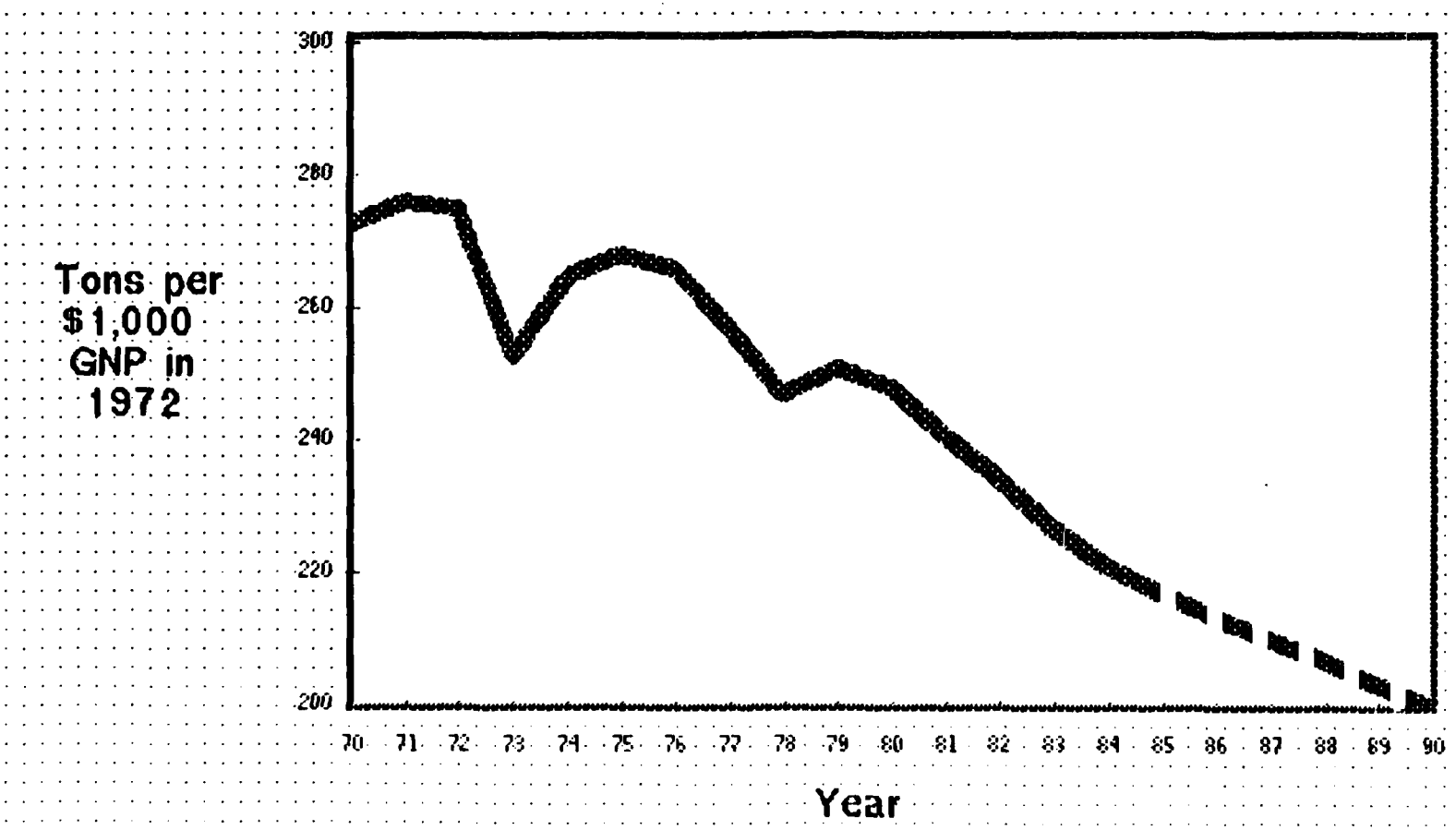
The Need for New Services and Approaches

Despite the traditional view of the barge and towing industry as a growing, well-managed, and profitable segment of the nation's transportation capacity, the industry must recognize fundamental challenges to its future growth and vitality.

First among these factors is the separation of the industry's growth from the direction of the U.S. economy as shown in Exhibit 2. Since 1970, the tonnage moving on the waterways per dollar of Gross National Product has declined by 20 percent, this trend will continue. This reflects the nation's increasing shift toward a service-based economy, the net conservation and substitution of basic raw materials, as well as continued rationalization of national and international resource distribution networks. For these reasons, the river will continue to grow less rapidly than the economy at large, and barring exports, may continue to decline. As a result, managers must prepare for a more

Exhibit 2

MISSISSIPPI TONNAGE AND THE U.S. ECONOMY 1970-1983



pressured competitive environment as carriers compete for existing cargoes.

A related challenge to the inland industry is the recent relegation of traffic growth to only a few basic commodities--coal, grains, and black oil products during the 1970s and early 1980s. This phenomenon is displayed in Exhibit 3 and can be attributed in part to the opportunities that were presented during this period due to export grain and coal exports and powerplant conversions from petroleum to coal. For the future, there is a renewed challenge for the inland barge industry to search out opportunities to transport higher valued, higher paying cargoes with specialized services that provide vital complementary traffic in the prevailing market environment. While the industry has focused on traditional cargo and shippers, in the long run it will be well served by learning the discipline of targeting multimodal shipper logistics and the additional contribution to fixed costs that selected commodities can provide.

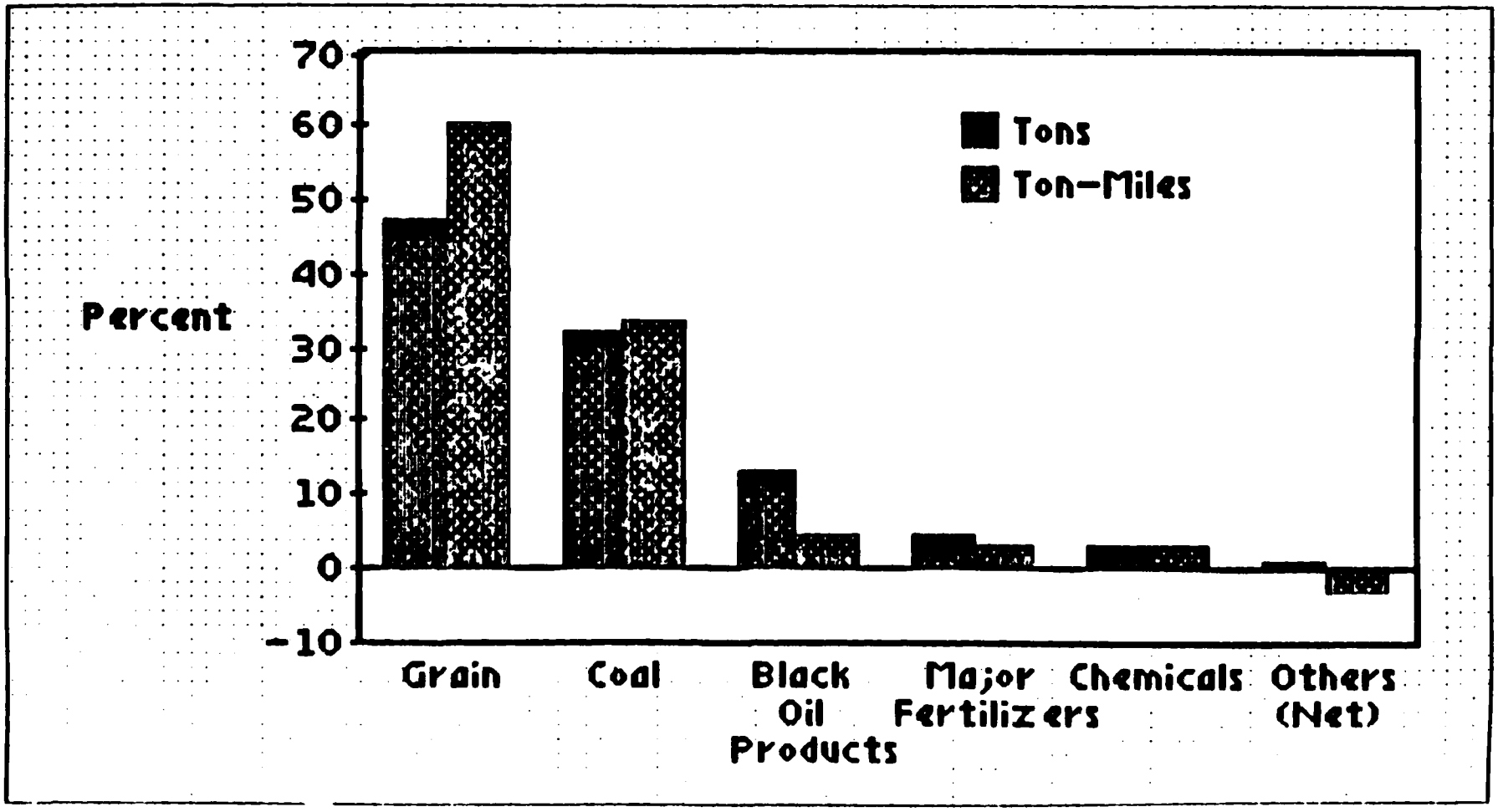
Conclusion

In the end, the barge industry will emerge from its current predicament. Because the industry provides efficient and vital transportation capacity, it will survive. The fundamental issue is when it will recover and how it will be structured. Both answers are closely related to the decisions that managers are now making. It is clear that the industry is dealing at present with its problems from an increasingly informed, but also weakened financial position.

Strategically, each carrier's management must evaluate how information can provide the basis for planning and implementation to strengthen the company's financial performance. For each carrier, this challenge will be different. For some it will be more difficult. This planning guide is designed to be of assistance to all.

Exhibit 3

MISSISSIPPI TRAFFIC
1970-1981



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